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Helmut Peise

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EXAMINER

MERKLING, MATTHEW J

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HELMUT PEISE, MANFRED SCHINGNITZ,  
and DIETMAR DEGENKOLB

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Appeal 2010-002351  
Application 10/815,192  
to reissue U.S. Patent 5,968,212  
Technology Center 1700

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Before ALLEN R. MacDONALD, MICHAEL P. COLAIANNI, and  
JEFFREY B. ROBERTSON, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 the final rejection of claims 1-7 in this reissue application of U.S. Patent 5,968,212 to Helmut Peise et al. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

Appellants disclose a device for utilizing combustion and waste materials containing carbon and ash by means of gasification (Peise, col. 1, ll. 8-10).

Claim 1 is illustrative:

1. A entrained-flow gasification reactor for gasification of combustion, residual and waste materials containing carbon and ash using an oxygen-containing oxidizing agent at temperatures above the melting point of the inorganic parts of said combustion, residual and waste materials at a pressure between ambient pressure and 60 bar, comprising:

a entrained-flow gasification reaction chamber;

a refractory-grade lining configured to form a first, upper part of said reaction chamber; and

a cooling wall configured to form a second, lower part of said reaction chamber, said second part of said reaction chamber including a lower floor and a lower outlet opening, said cooling wall including cooling coils connected in a gas-tight manner, said cooling coils being coated with a heat-conducting ceramic layer and operated, while being cooled by pressurized water, below or above the boiling point of the cooling water, said refractory-grade lining extending downward in a direction parallel to sidewalls of said reactor chamber over said cooling wall in an area of said second part of said reaction chamber including an area of said lower floor, such that said refractory-grade lining and said cooling wall are joined in an overlapping fashion to compensate for different heat expansions.

Appellants appeal the following rejections:

1. Claims 1-7 are rejected under 35 U.S.C. § 251 as improperly broadening the claims of US Patent 5,968,212 outside the 2 year period permitted for broadening.

2. Claims 1-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brooker (US Patent 5,464,592 issued Nov. 7, 1995) in view of Kummel (US Patent 4,188,915 issued Feb. 19, 1980).

With regard to both rejections, Appellants argue the claims as a group with their arguments primarily directed to claim 1 (App. Br. 4-8).

*Rejection (1): Broadening Outside 2 Year Period*

ISSUE

Did the Examiner err in determining that Appellants' change of "fluidized-bed reactor" to "entrained-flow gasification reactor" more than 2 years after issuance of patent 5,968,212 constitutes an improper broadening of the claims? We decide this issue in the negative.

PRINCIPLE OF LAW

No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

35 U.S.C. § 251 (2010).

FACTUAL FINDINGS (FF)

We adopt the Examiner's findings of fact on pages 3 and 6-7 of the Answer as our own.

ANALYSIS

Appellants argue that "fluidized-bed reactor" was changed to "entrained flow gasification reactor" to correct an error in the translation of

the German priority document into what would become the U.S. application (App. Br. 4). Reasoning from *Forest Laboratories, Inc. v. Ivax Pharms., Inc.*, 501 F.3d 1263 (Fed. Cir. 2007), Appellants argue that their written description uses the correct term and one of ordinary skill would have been immediately realized the error (App. Br. 5). Appellants contend that Manfred Schingnitz's declaration (hereinafter the "Schingnitz Declaration") establishes that the written description of patent 5,968,212 can only be understood as disclosing an entrained-flow gasification reactor, not a fluidized-bed reactor (App. Br. 5). Appellants argue that the correction does not constitute broadening but merely a correction of the claim to be consistent with the original Specification (App.Br. 6).

The Examiner finds that one of ordinary skill in the art would recognize that the term "fluidized-bed reactor" may include entrained flow reactors because flow through the fluidized-bed entrains particles in a suspension (Ans. 7). The Examiner further finds that certain "entrained flow reactors" cannot be interpreted as a fluidized bed reactor because there is no bed in certain entrained flow reactors (Ans. 7). Based upon these findings, the Examiner determines that the substitution of "entrained-flow gasification reactor" for "fluidized-bed reactor" is broader because the phrase contains subject matter not included by the term "fluidized bed reactor" (Ans. 7).

We note that Appellants do not respond in the Reply Brief to the Examiner's finding that "entrained-flow gasification reactor" is broader because it includes reactors that are not included by the term "fluidized bed reactor" (Reply Br. 1). Instead, Appellants focus only on the first half of the Examiner's reasoning where the Examiner states that a fluidized bed reactor can be interpreted as an entrained flow reactor (Reply Br. 1). However, this

argument fails to address fully and show error in the Examiner's findings and conclusions that are based on further reasoning.

The facts of this appeal are further distinguishable from those of *Forest*. In *Forest* the court found that changing the optical rotation sign on a diol intermediate was not considered broadening because one of ordinary skill in the art would have found the error in the optical rotation sign of the diol immediately apparent. *Forest*, 501 F.3d at 1270-71. The court based its decision on the plain reading of the patent and expert testimony. *Id.*

In contrast, as found by the Examiner and not disputed by Appellants, fluidized bed reactors may include some entrained flow reactors. Accordingly, it is not necessarily apparent to one of ordinary skill in the art that "fluidized bed reactor" is an error. Also, the Examiner found that "entrained flow reactors" include reactors without a bed, such that the modified term is broader than as previously claimed. Accordingly, the facts of this appeal are not the same as the facts of *Forest*.

For the above reasons, we affirm the Examiner's rejection of claims 1-7 under § 251 as impermissibly broadening of the reissue claims outside the two year post-grant period.<sup>1</sup>

*Rejection (2): Obviousness*

ISSUE

Did the Examiner err in determining that Brooker taught or would have suggested a "refractory-grade lining extending downward in a direction parallel to sidewalls of said reactor chamber over said cooling wall . . . said

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<sup>1</sup> There is no dispute that Appellants' reissue application was filed outside the two year post-grant period permitted for broadening of the claims (*see generally* App. Br. & Reply Br.).

refractory-grade lining and said cooling wall are joined in an overlapping fashion to compensate for different heat expansions” as required by claim 1? We decide this issue in the negative.

### ADDITIONAL FACTUAL FINDINGS

We adopt the Examiner’s findings of fact on pages 3-6 and 7-8 as our own.

### ANALYSIS

Appellants do not contest the Examiner’s specific combination of or reason for combining Kummel and Brooker (App. Br. 7-8). Rather, Appellants argue that Brooker fails to teach or suggest

a refractory grade lining that extends over the throat section 31 (which the Examiner considers to be the cooling wall) “in a direction parallel to the sidewalls of said reactor chamber” . . . ‘such that said refractory-grade lining and said cooling wall are joined in an overlapping fashion to compensate for different heat expansions.”

(App. Br. 7). Appellants contend that Brooker’s throat section 31 (i.e., cooling wall) is a continuation of the gasifier floor and is therefore not overlapping with the refractory lining to compensate for different heat expansions as required by the claims (Reply Br. 2). Appellants further contend that the Examiner has not addressed the functional language that the refractory lining and cooling wall overlap to “compensate for different heat expansions” (Reply Br. 2).

Contrary to Appellants’ arguments, the Examiner finds that Brooker discloses that the throat is comprised primarily of refractory material and that castable refractory material is molded to the supporting pipe framework 32 that forms part of the throat 31 (Ans. 4; Brooker, col. 1, ll. 54-61; col. 3,

ll. 40-44). The Examiner explains that Brooker's Figure 2 shows that the refractory lining 22 overlaps the throat 31 (i.e., cooling wall). The Examiner further finds that Brooker discloses that gasifier floor 19 is described as being an extension of the gasifier shell 11 and the refractory lining 12 and 22 parallel the shell 11 and floor 19 (i.e., the gasifier wall). Accordingly, the Examiner provides explicit findings that Brookers' various features meet the claim features. We agree.

Appellants have not explained why Brookers' Figure 2 fails to show the refractory lining overlapping the cooling wall (i.e., throat 31).<sup>2</sup> Indeed, Brooker's disclosure that the pipes 32 that comprise the throat are coated with refractory material (Brooker, col. 3, ll. 40-44) underscores the Examiner's reasonable finding that Brooker teaches an overlapping arrangement of the refractory lining (e.g., 12 or 22) and throat 31 (i.e., cooling wall).

While Brooker discloses that the throat section 31 is in essence a continuation of the gasifier floor 19 and refractory liner 22 as argued by Appellants, Brooker also discloses that throat section 31 may be a separate structure that is attached to the floor of the gasifier (Brooker, col. 3, ll. 44-50). However, whether or not the throat section is part of the floor or separate, we fail to see how either embodiment would undermine the Examiner's finding that the refractory lining that extends parallel to the sides of the reactor chamber would overlap with throat section 31 (i.e., cooling wall).

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<sup>2</sup> Appellants have not directed us to any particular arrangement or definition of "overlapping" in the Specification (*see generally* App. Br. and Reply Br.).



Contrary to Appellants' argument that the Examiner has not addressed the functional language that the overlapping arrangement of the refractory lining and the cooling wall compensate for different heat expansions, the Examiner specifically finds that Brooker teaches providing a refractory lining to protect the cooling walls from "thermal shock." Thermal shock is understood as stresses in the materials caused by sudden changes in temperature. These stresses may be caused by the expansion or contraction of the material due to the sudden temperature change. Therefore based on the Examiner's finding of the similarity of the overlapping arrangement of the refractory lining and the cooling wall and Brooker's teachings that the refractory lining protects against thermal shock, Brooker's device appears capable of performing the recited function (i.e., compensate for different heat expansions).

For the above reasons, we affirm the Examiner's § 103 rejection of claims 1-7 over Brooker in view of Kummel.

#### DECISION

The Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(2009).

#### ORDER

AFFIRMED

Appeal 2010-002351  
Application 10/815,192

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